

Fig. 1

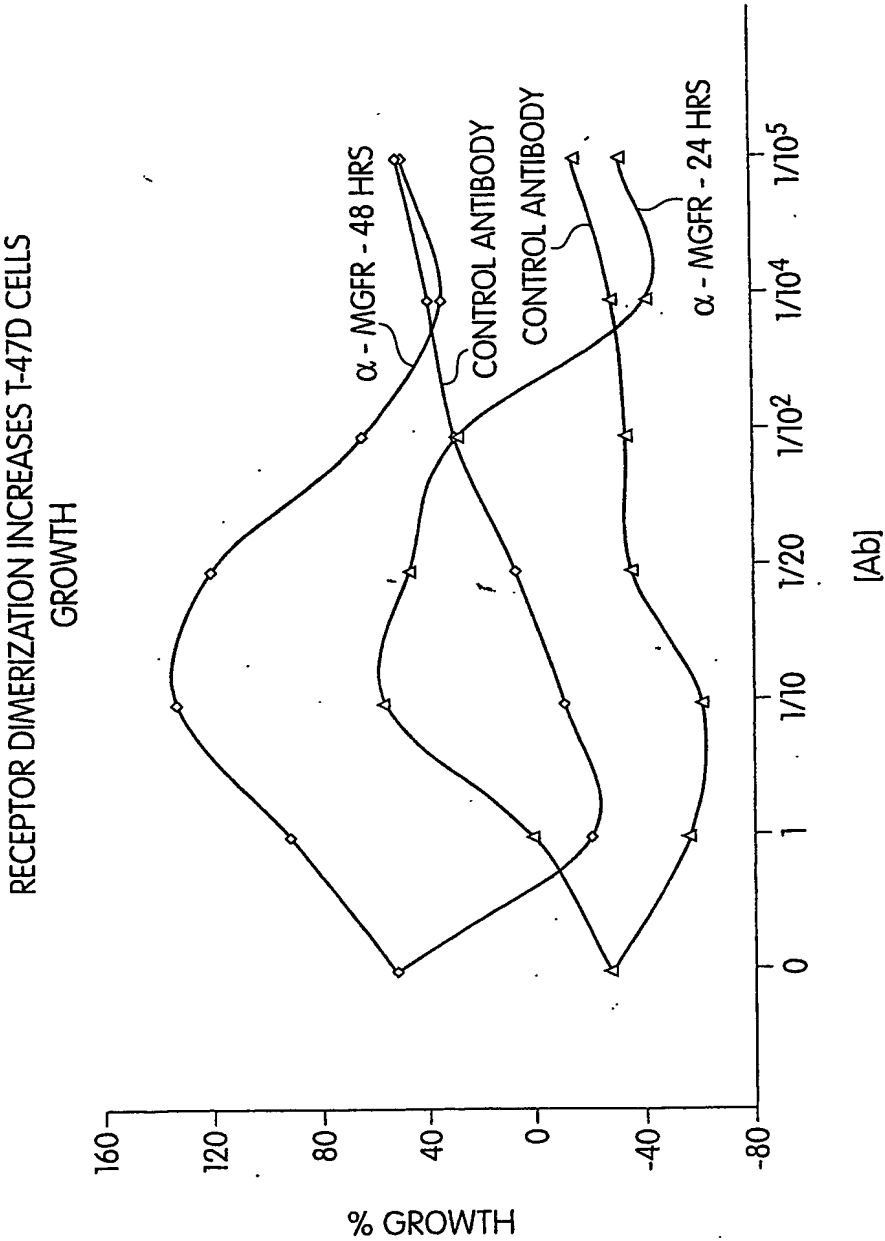


Fig. 4

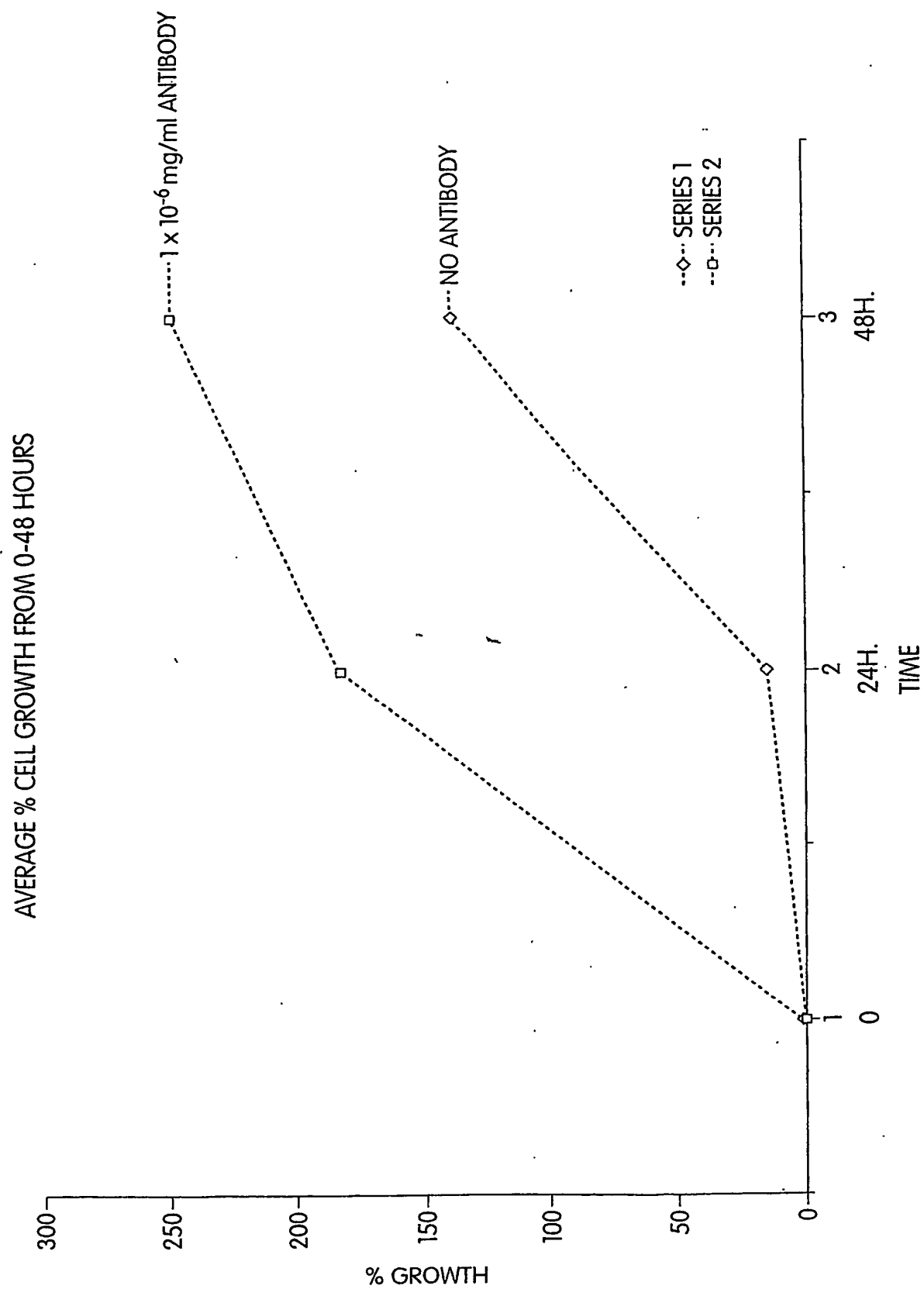


Fig. 5

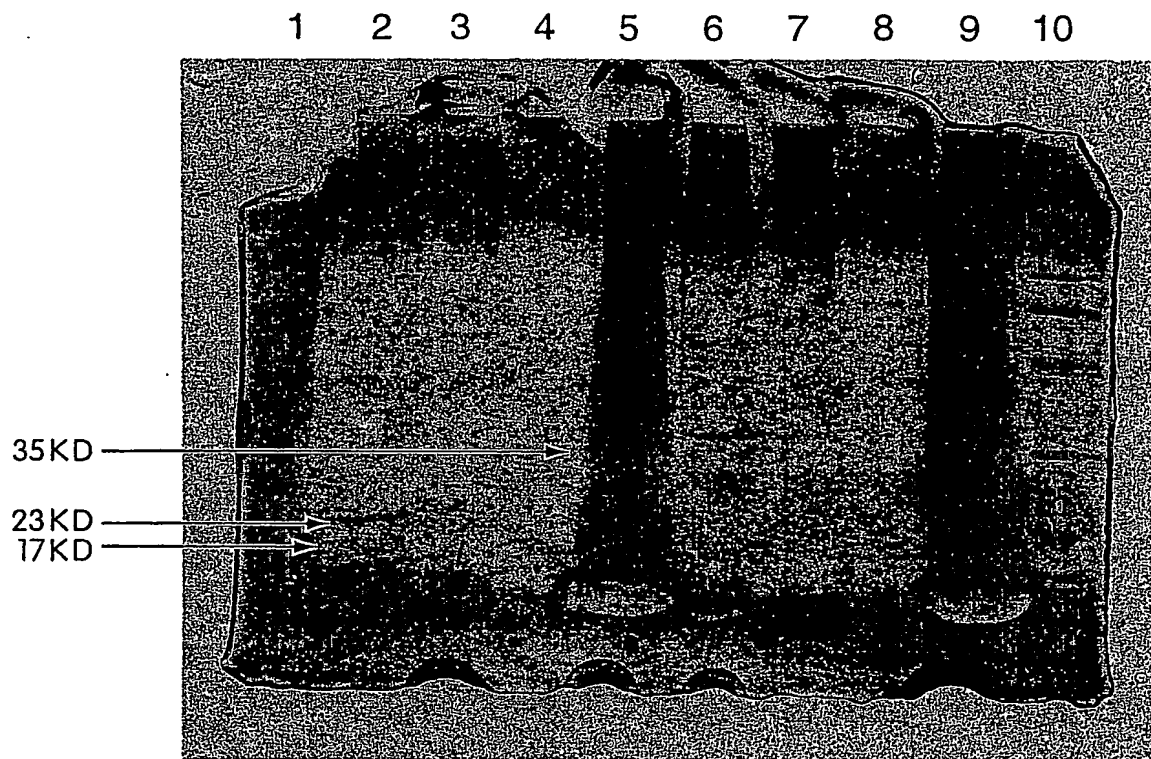


Fig. 9

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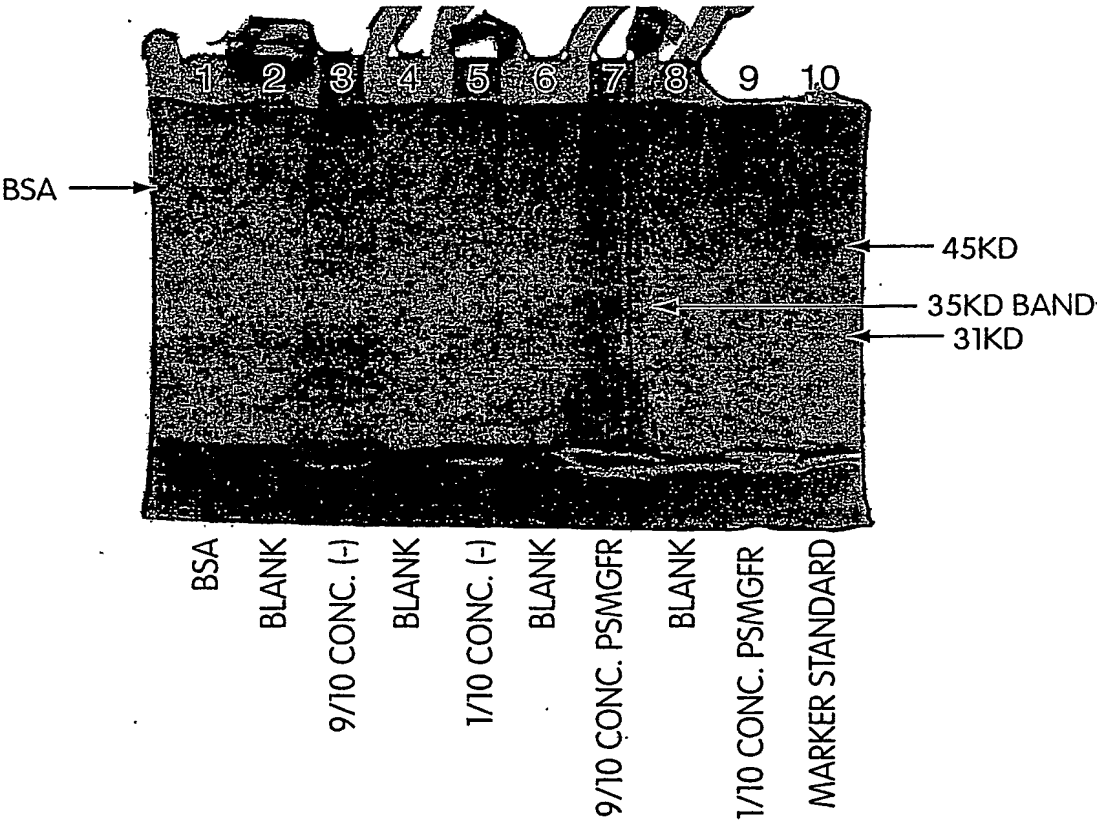
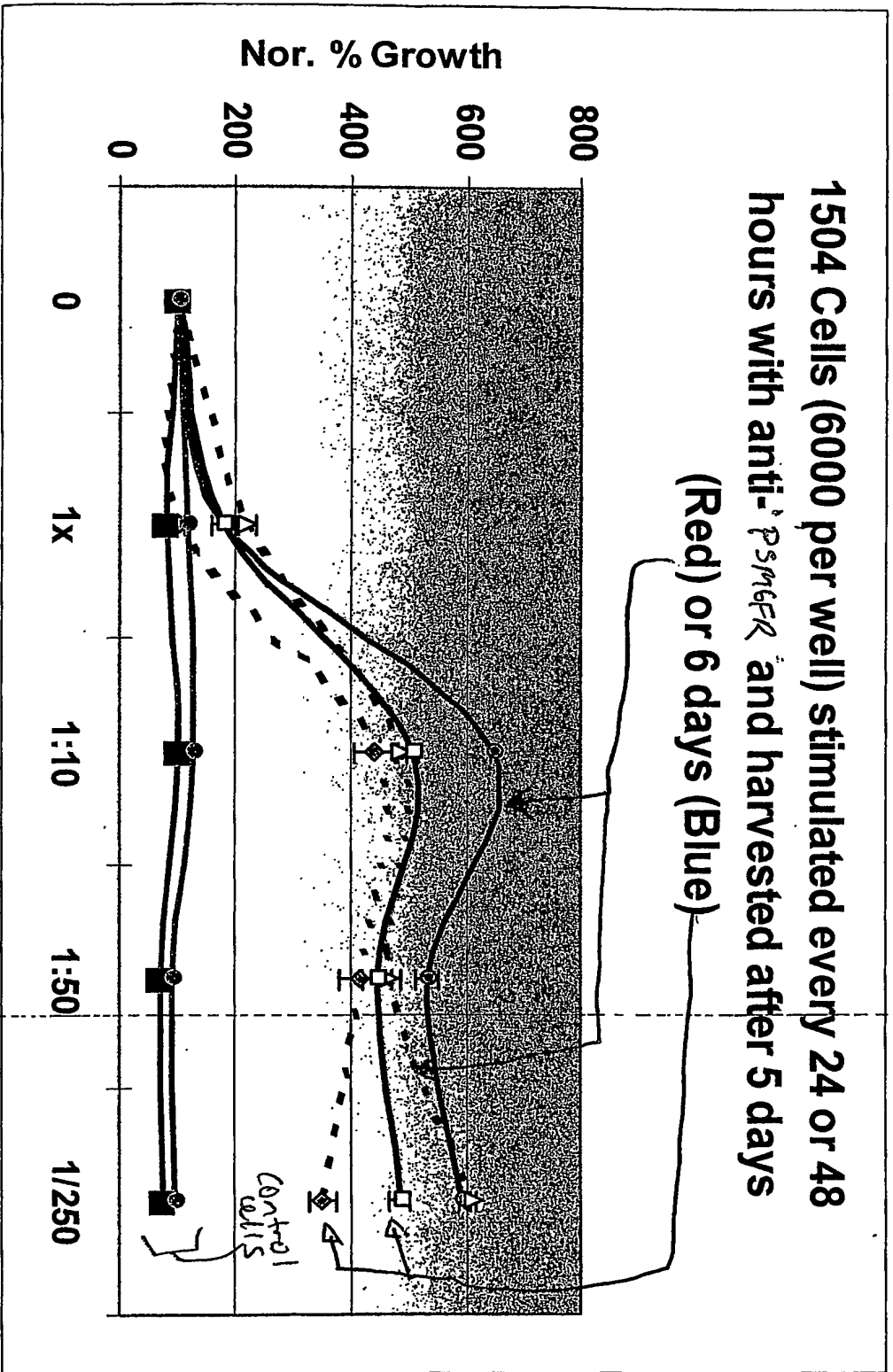


Fig. 10

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**β ivalent Anti- $PSM6FR$ Stimulates Cell Growth in
MUC1⁺ Breast Tumor Cells - 1504**



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FIG. 21

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Anti- $\text{pS}^{\text{M6}}\text{FR}$ Stimulates Growth of Breast Tumor Cell Line 1500

1500 cells (6000 per well) stimulated with anti- $\text{pS}^{\text{M6}}\text{FR}$ and Harvested at 3 days

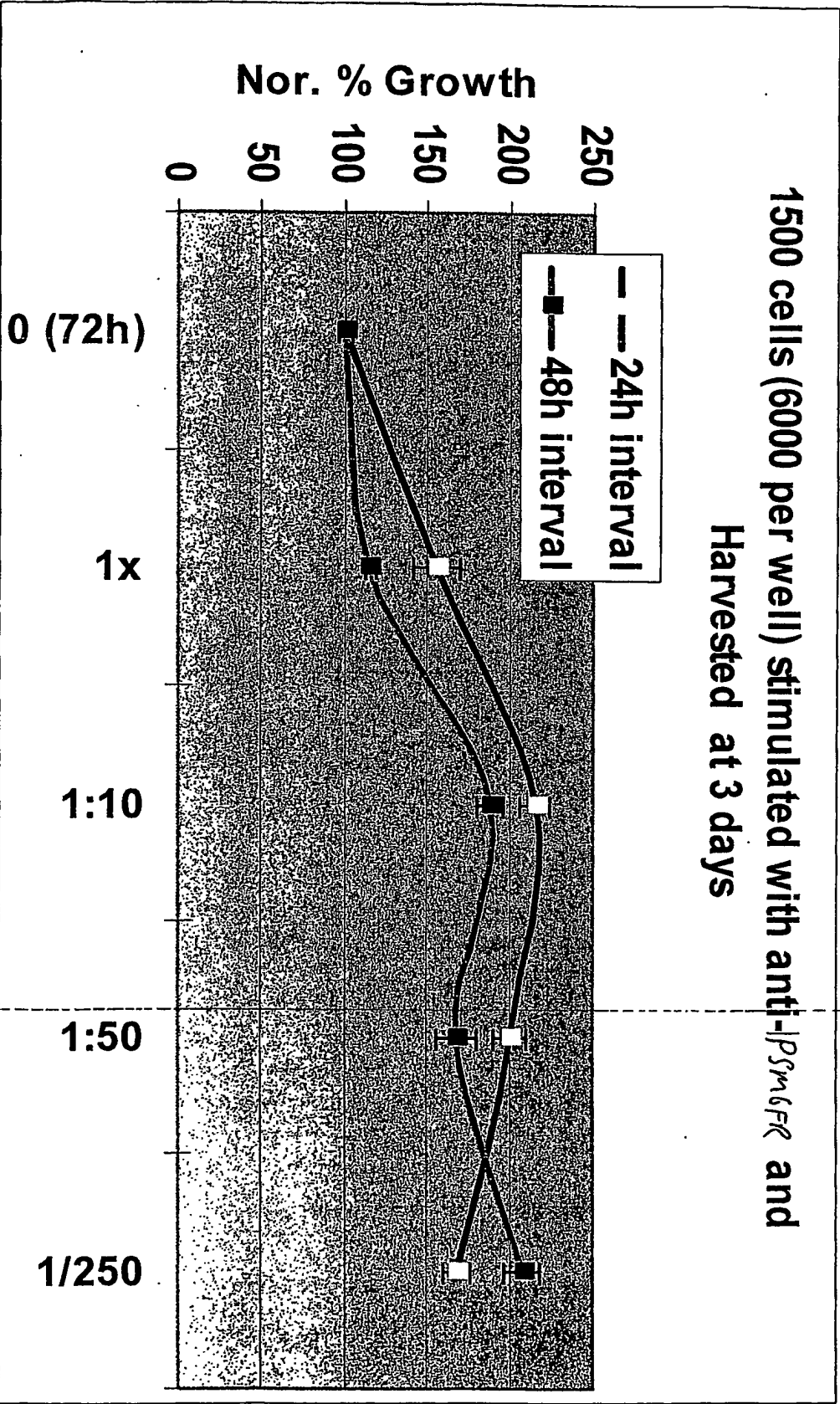


Fig. 22

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Anti-*PSMGFR* Stimulates Growth of Breast Tumor Cell Line 1500

1500 cells stimulated every 24h or 48h with anti-*PSMGFR* and harvested at 2 days (red), 3 days (yellow), or 4 days (blue)

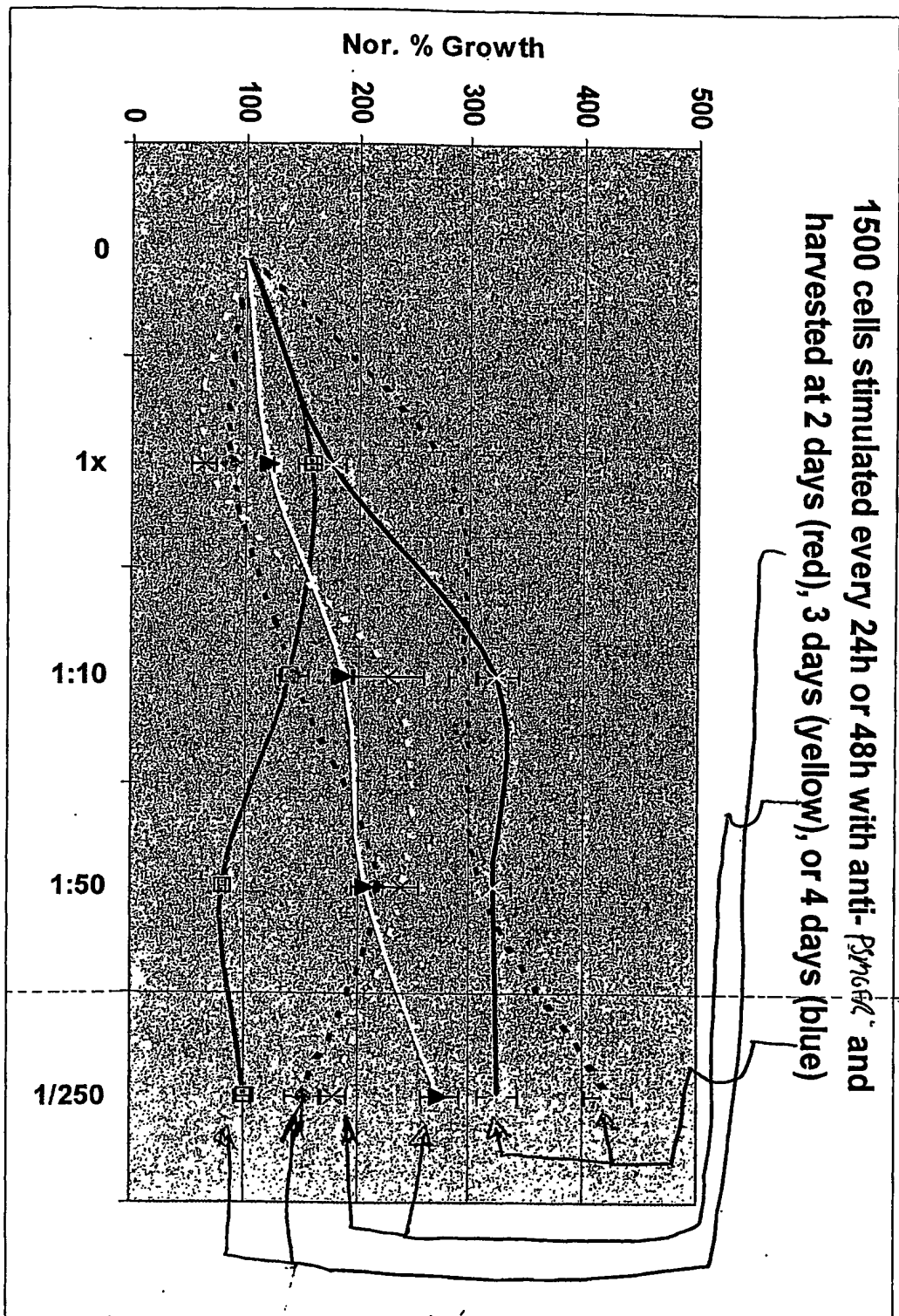


Fig. 23

Bivalent Anti- α PSM6FR Stimulates Cell Proliferation in T47D Cells

The Effect of α PSM6FR Bivalent Antibody on T47D cell Proliferation

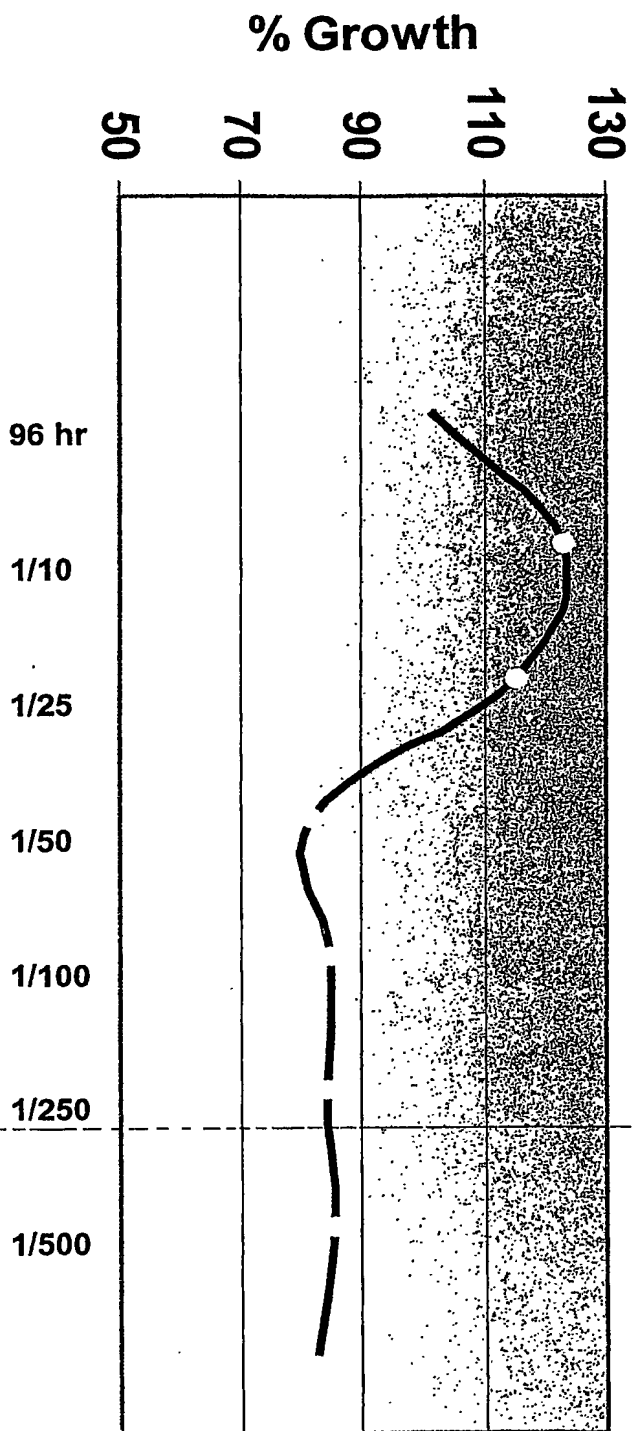


Fig. 29

β ivalent Anti- β_{SM6F2} Stimulates Cell Proliferation in BT-474 Cells

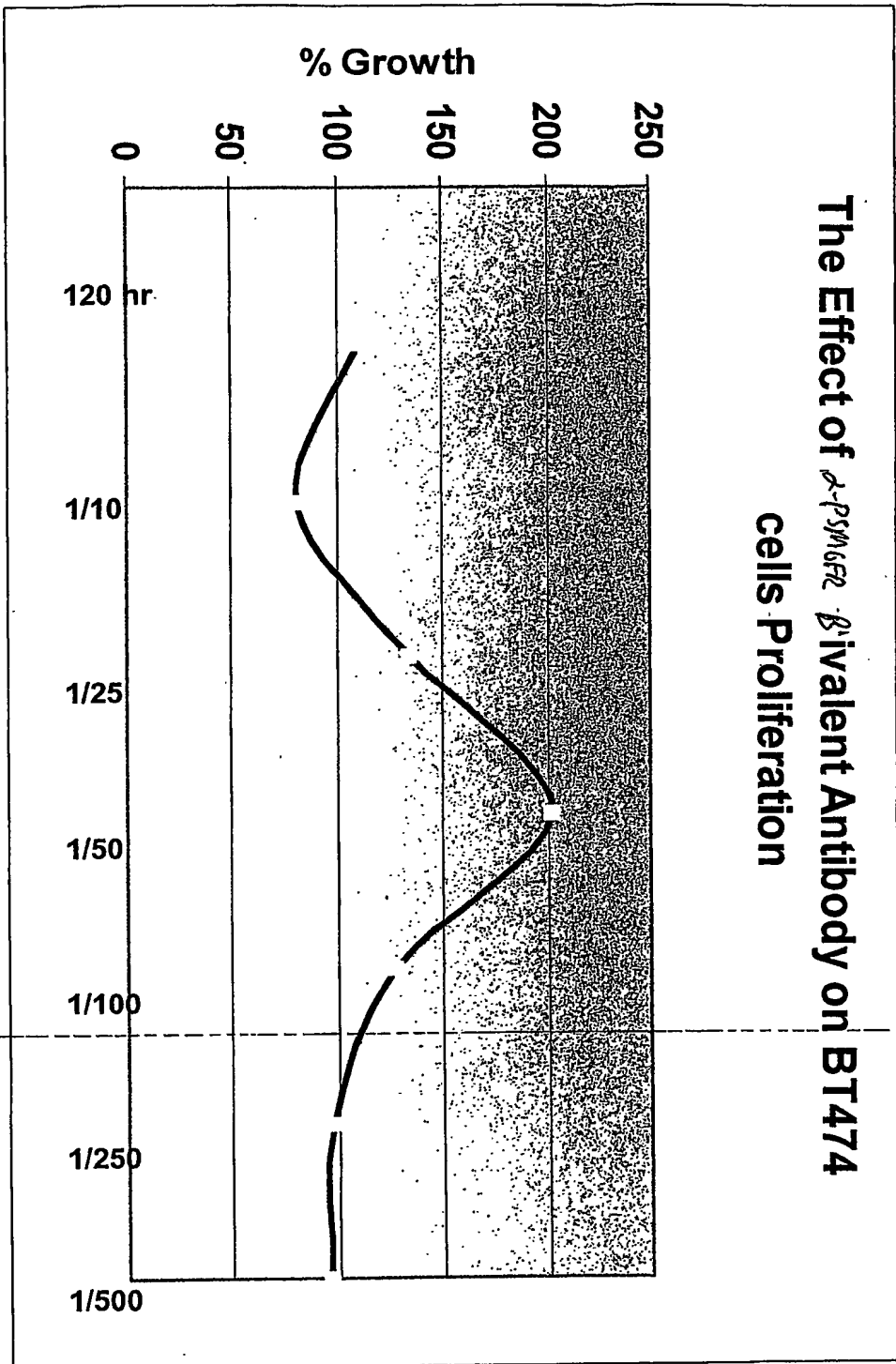


Fig. 25

Monovalent Anti- pSm6Er Inhibits Growth of Breast Tumor Cell Line 1504

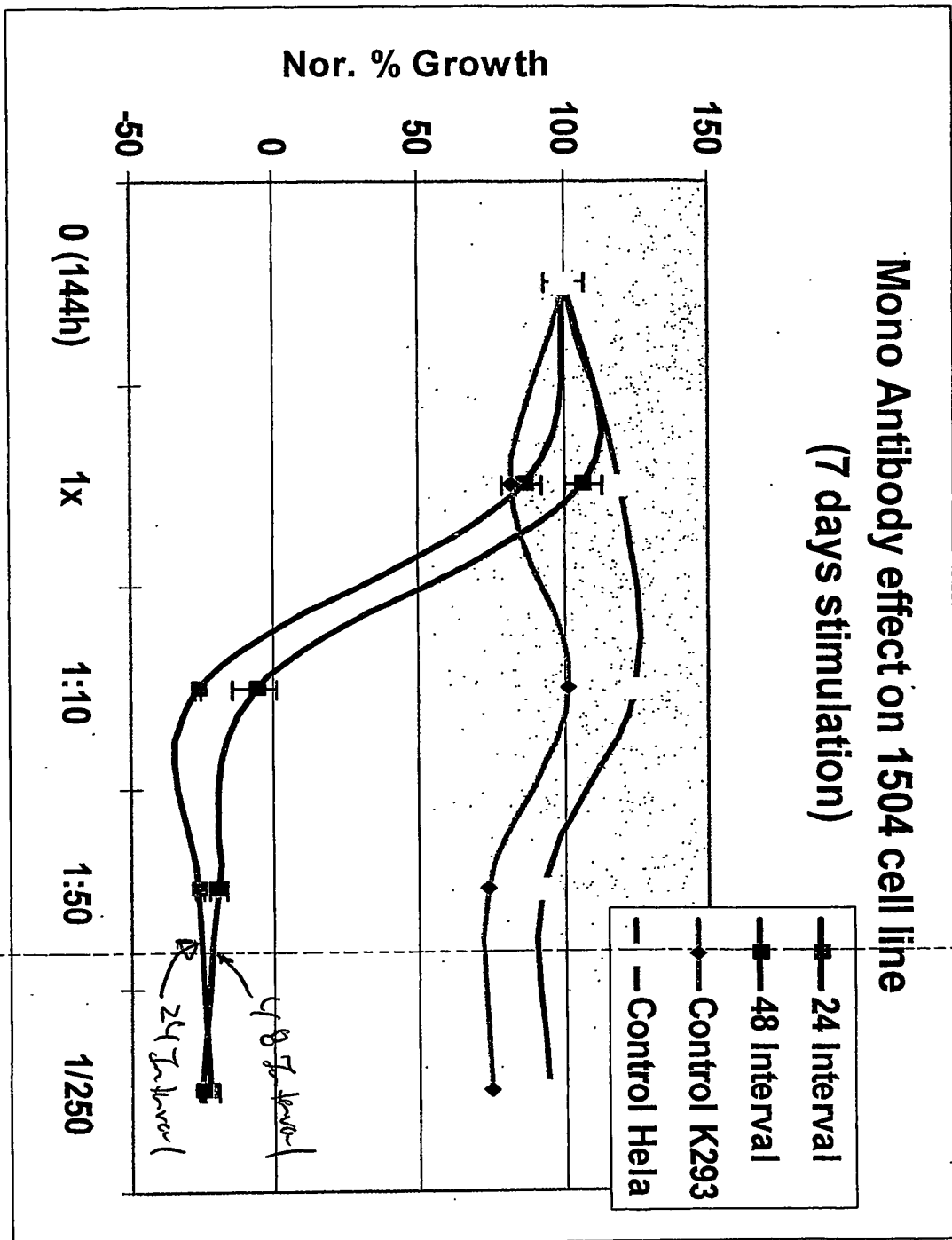


Fig. 27

Monovalent Anti- $P_{S\alpha 6FR}$ Inhibits Growth of Breast Tumor Cell Line 1500

Effect of Monovalent Anti- $P_{S\alpha 6FR}$ (24hr Interval) on 1500 cell proliferation - Harvested after 7 days

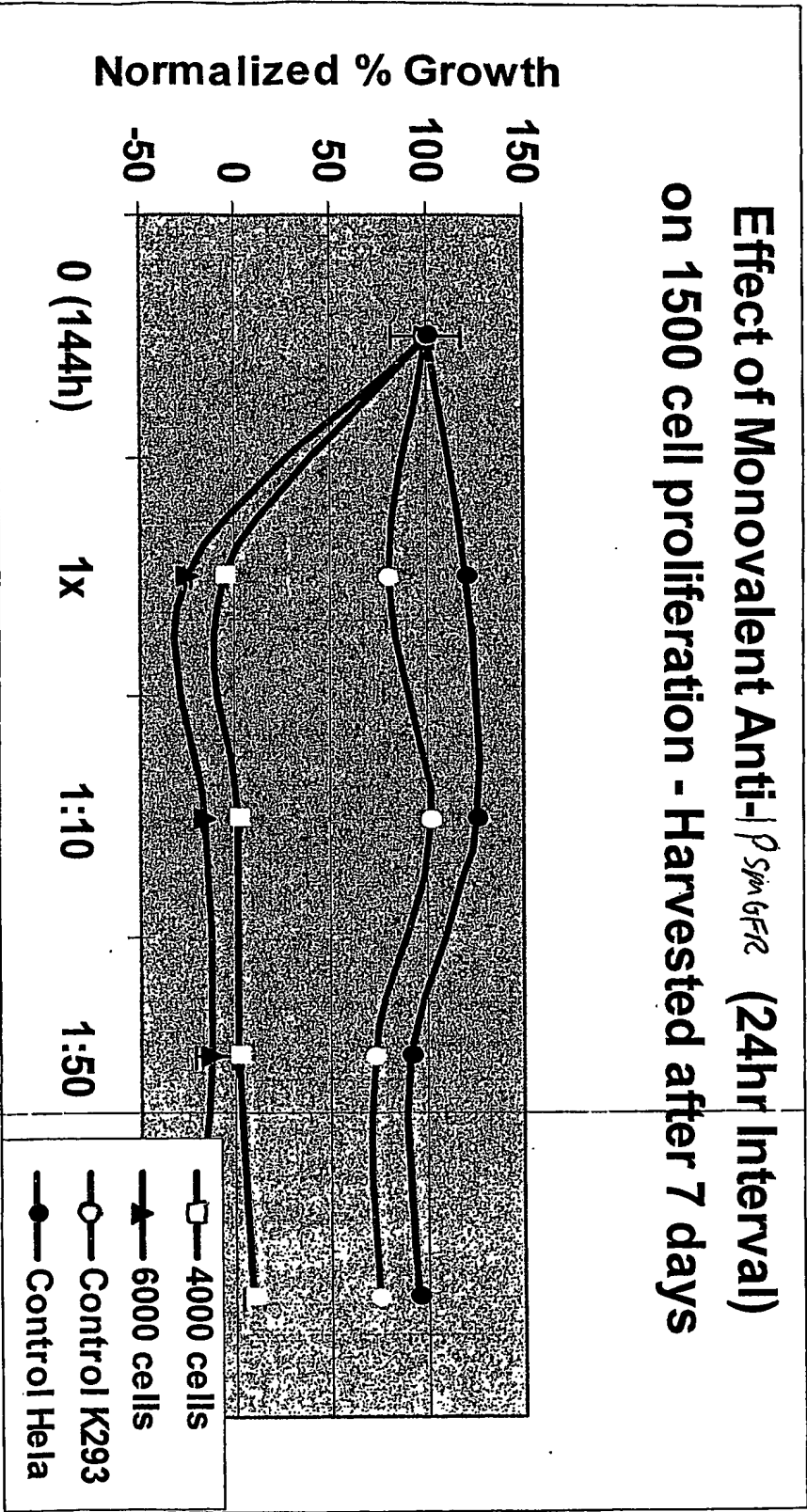


Fig. 20

**Monovalent Competes with Bivalent Anti-*PSMGEA*
and Blocks Color Change in Nanoparticle Assay**

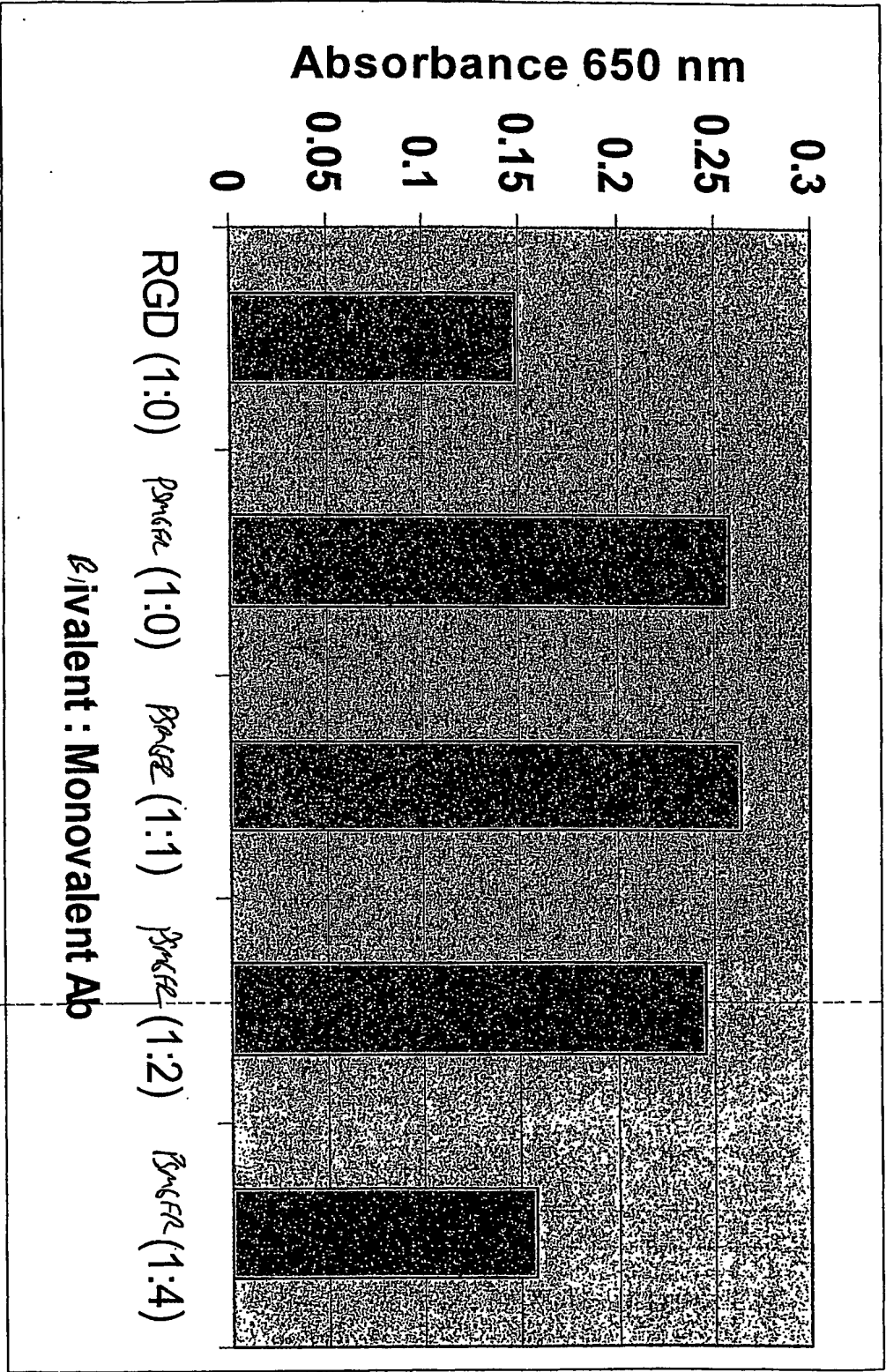


Fig. 29

**Breast Tumor Cells Produce MUC1 Cleavage
Products of Apparent Molecular Weight 20 – 30 kDa**

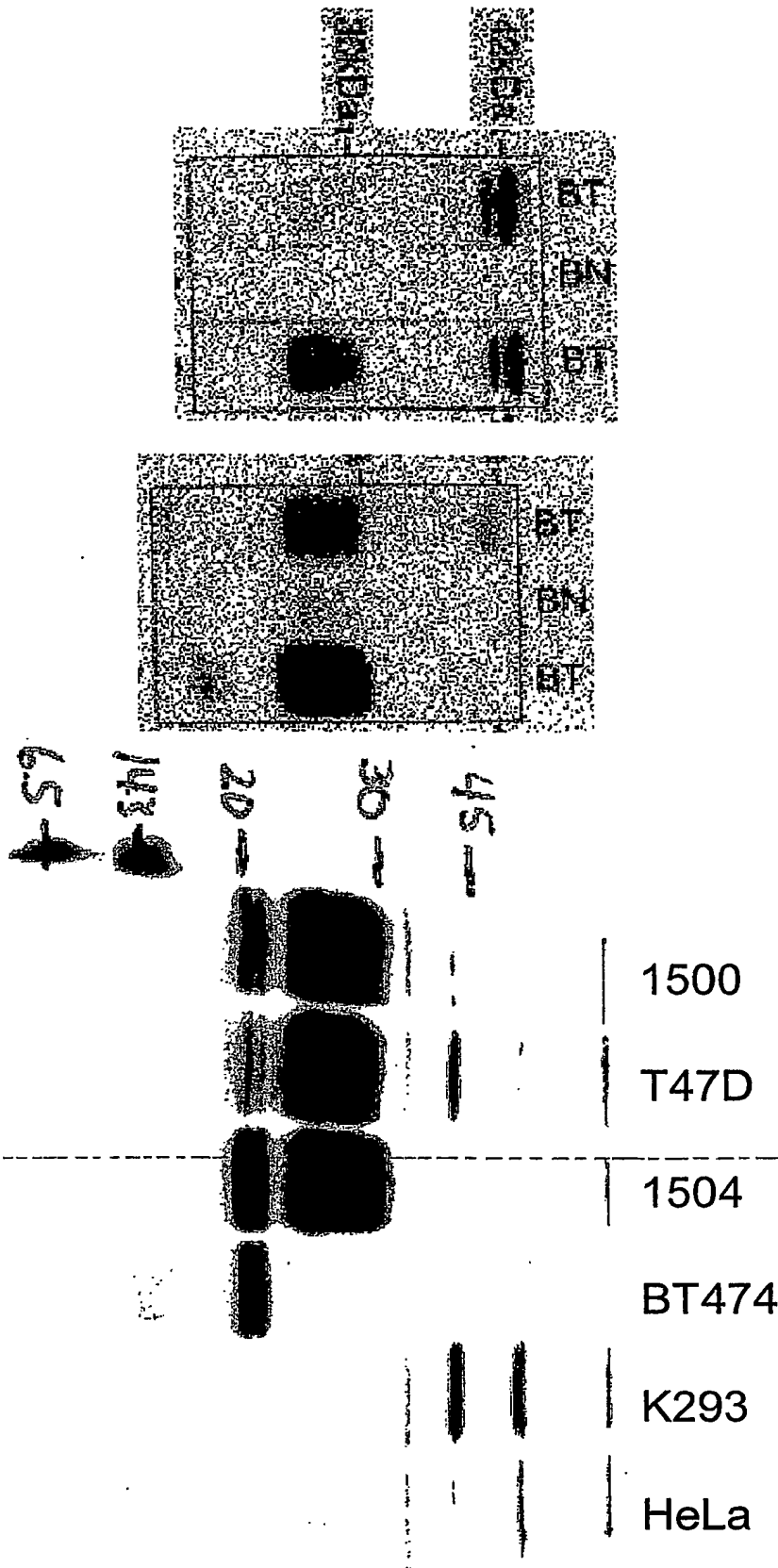


Fig. 30

**Anti- pSMGFR Dimerizes MUC1 in T47D Cells and
Activates Intracellular MAP Kinase Cell Proliferation
Pathway**

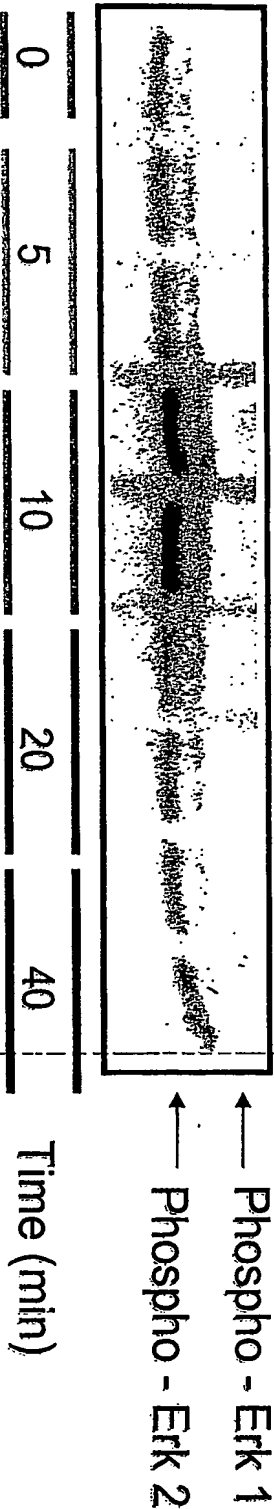


Fig. 31

Bivalent Anti- β -Synergin Induces MAP Kinase Cell Proliferation Pathway in 1504 Breast Tumor Cells

Time-Course effect of Anti- β -Synergin* (5ul) on ERK2 Pathway in 1504 Cell line

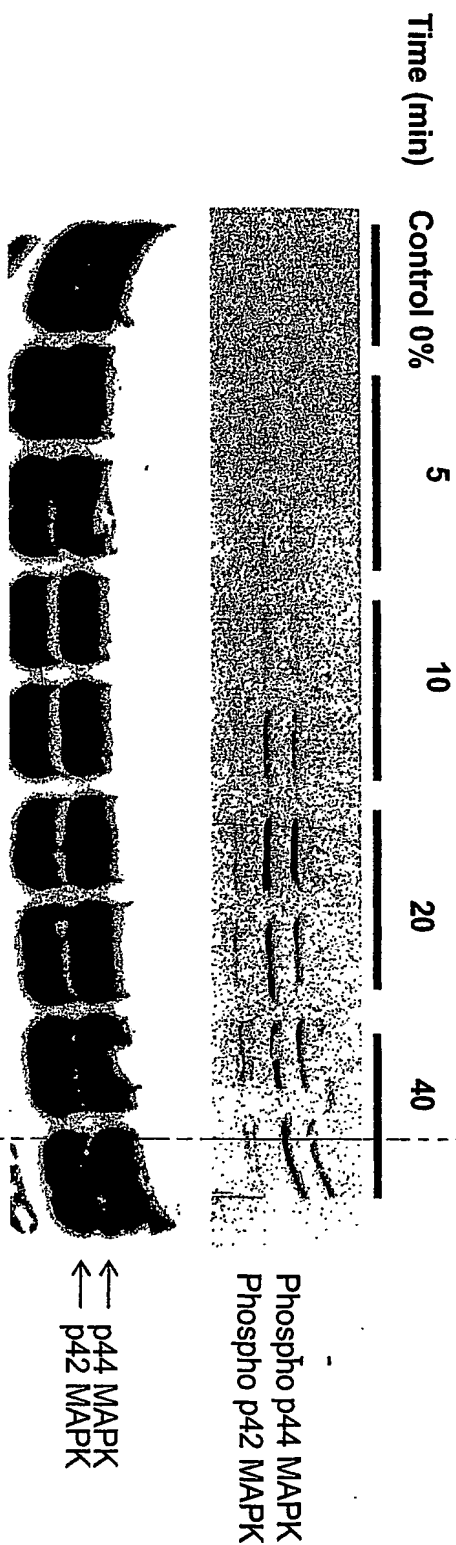


Fig. 32

Time-Course effect of Anti-*PsmA* (5ul) on ERK2 Pathway in 1500 Cell line



MN Compounds Compete with Antibody to Bind to $PSM6FR$ & Block Activation of MAP Kinase Proliferation Pathway

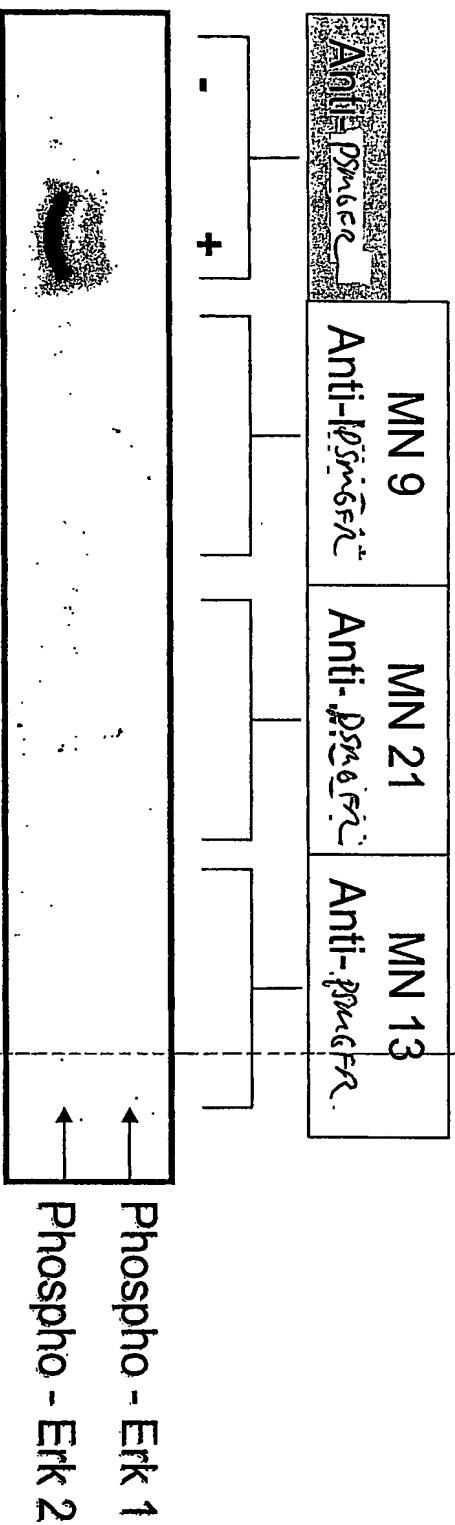


Fig. 34

Monovalent Inhibits ERK2 Phosphorylation

Anti-~~PSM~~^{4F2} (5uI) and Monovalent (10uI) Antibody effect on ERK2 Pathway in 1500 Cell line

Control Divalent Mono Mono+Divalent

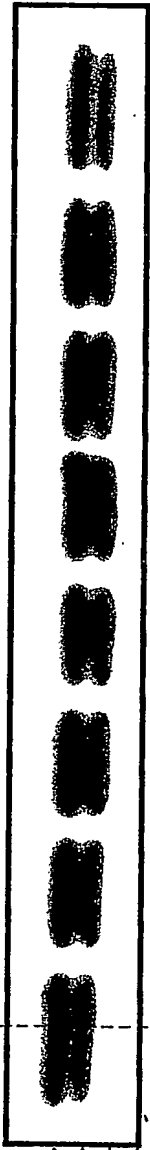


Fig. 35

**Breast Tumor Cells Present Full-Length
as well as Cleaved MUC1**

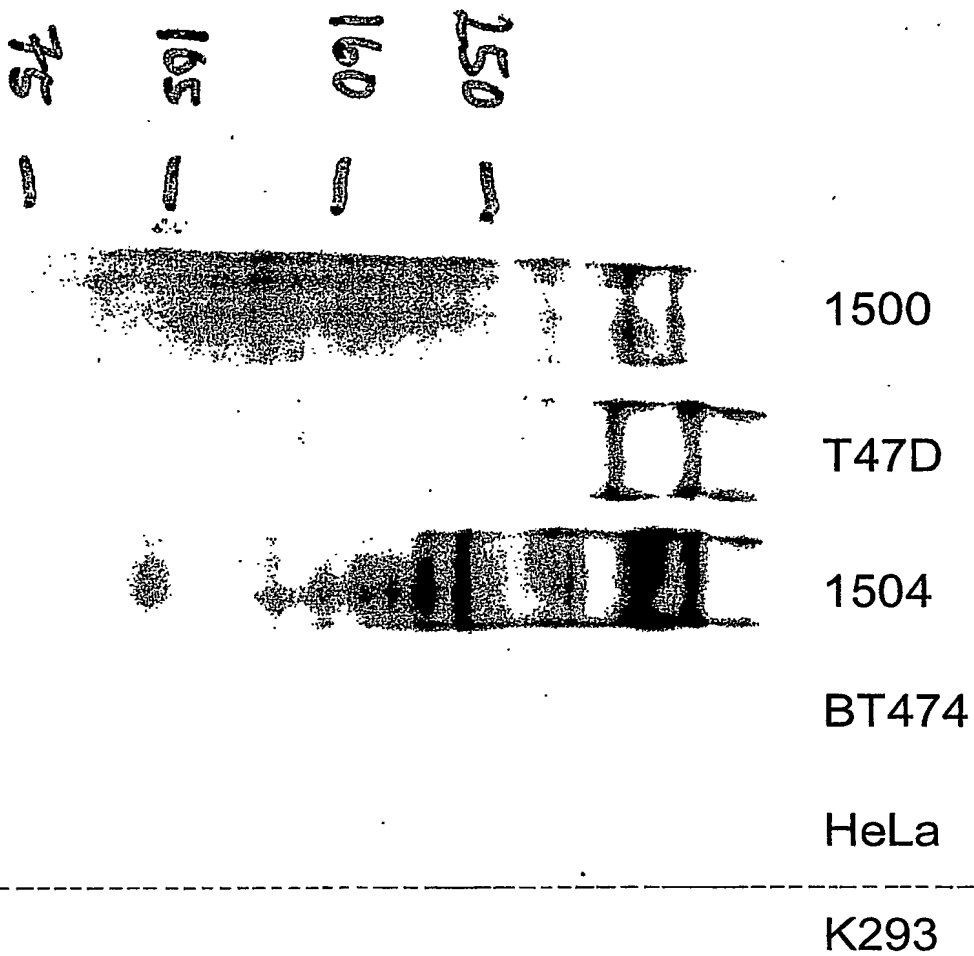


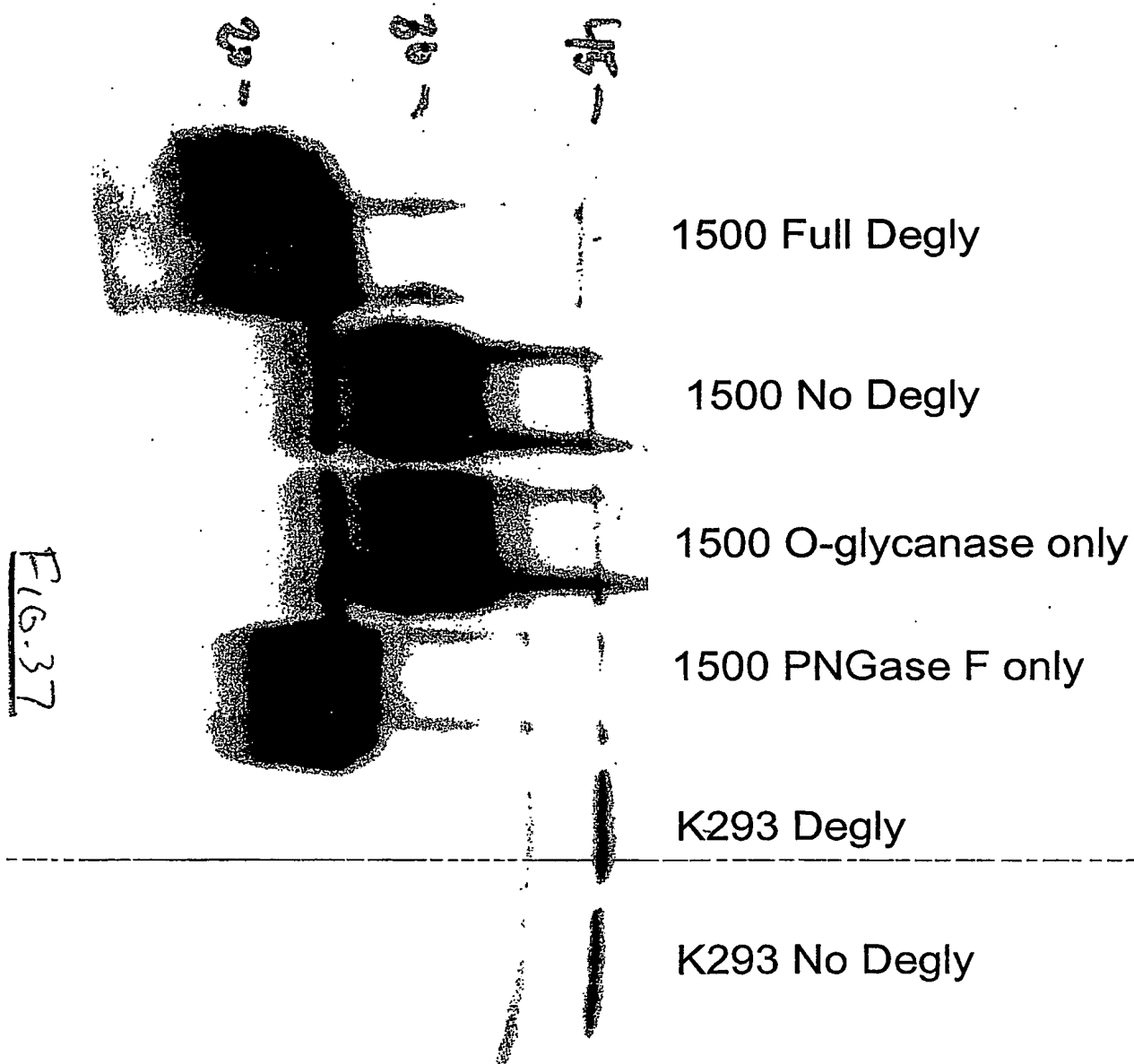
Fig. 36

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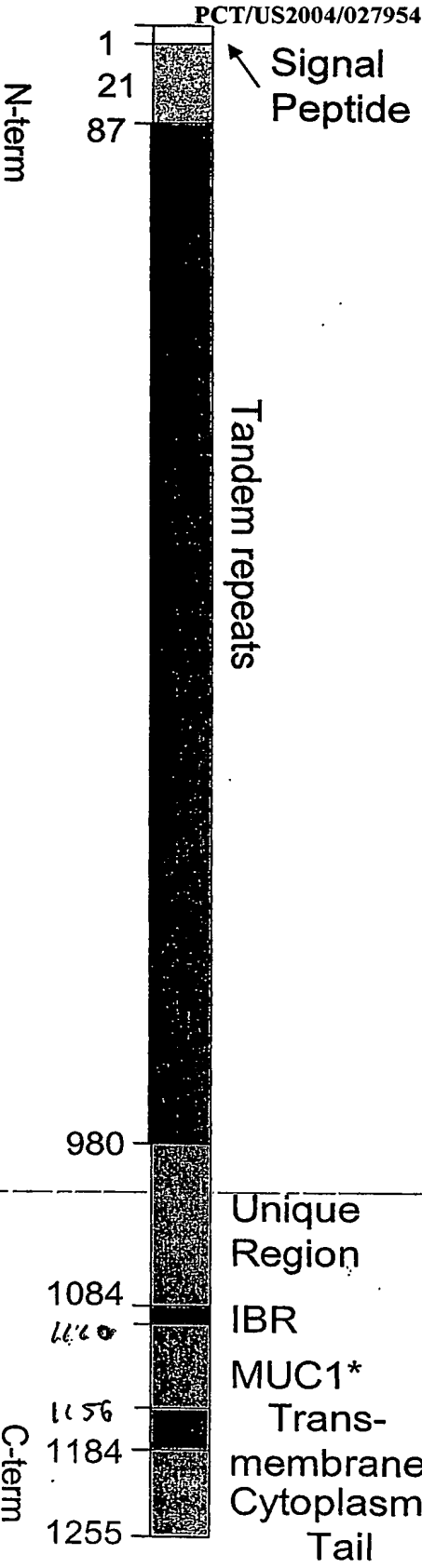
MUC1 Cleavage Products are N-Glycosylated

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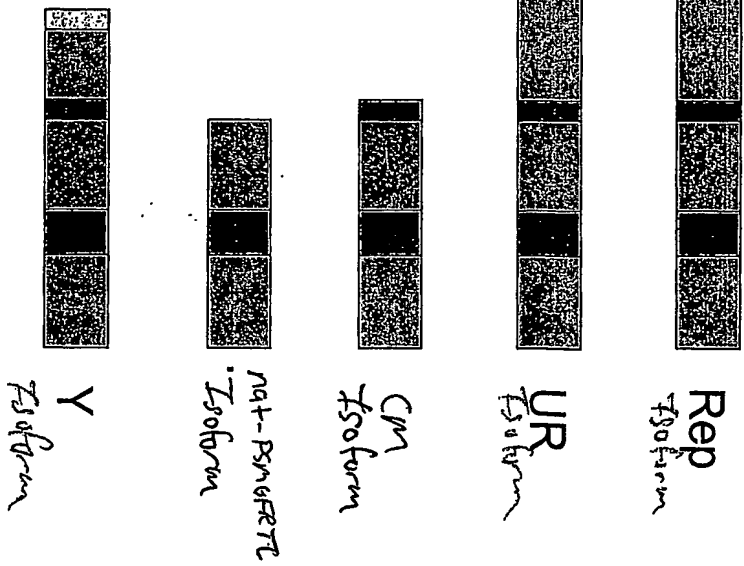


MUC1 Variants Transfected into HEK Cells

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F16.38



Tumor-Specific ~20 kDa Band

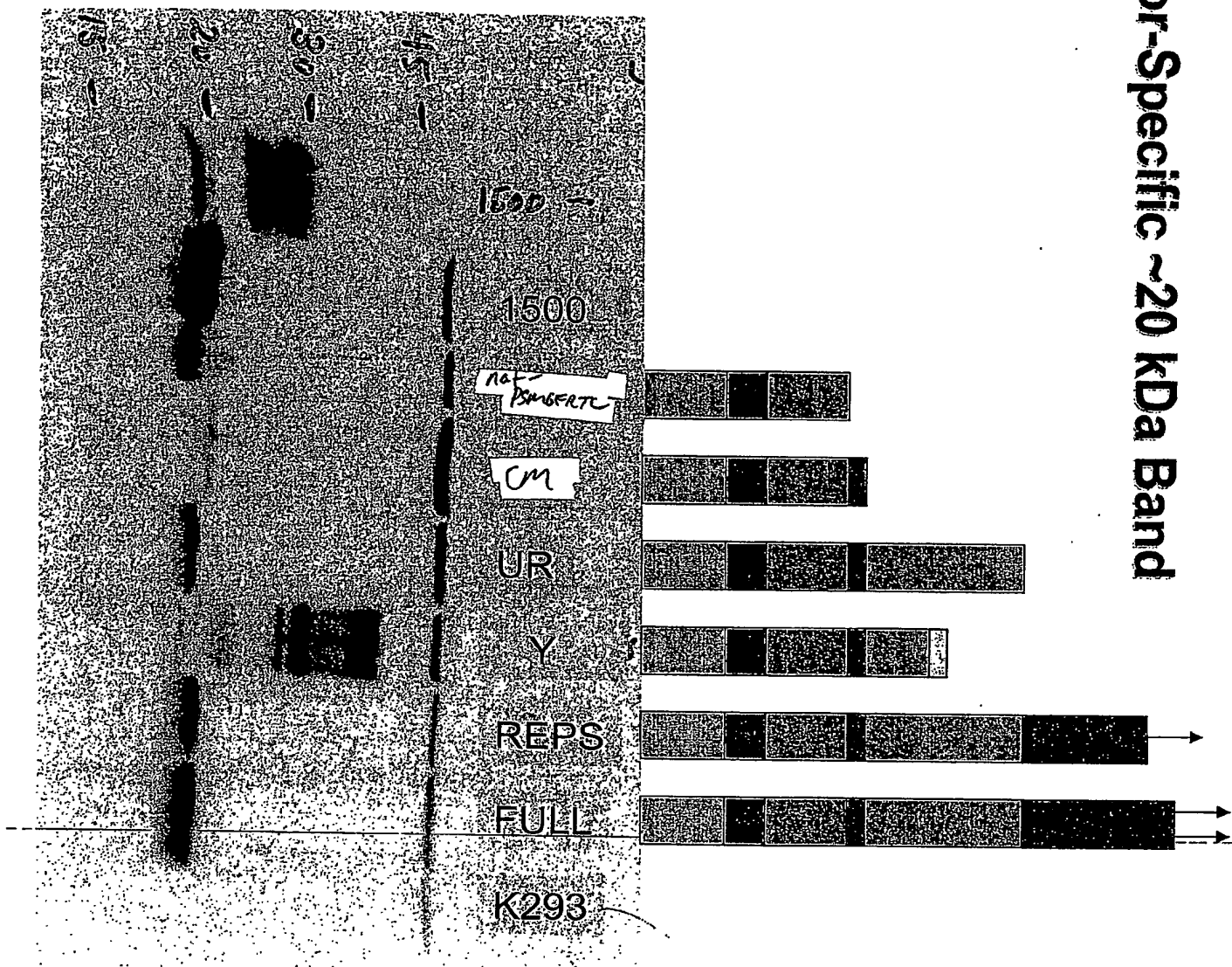
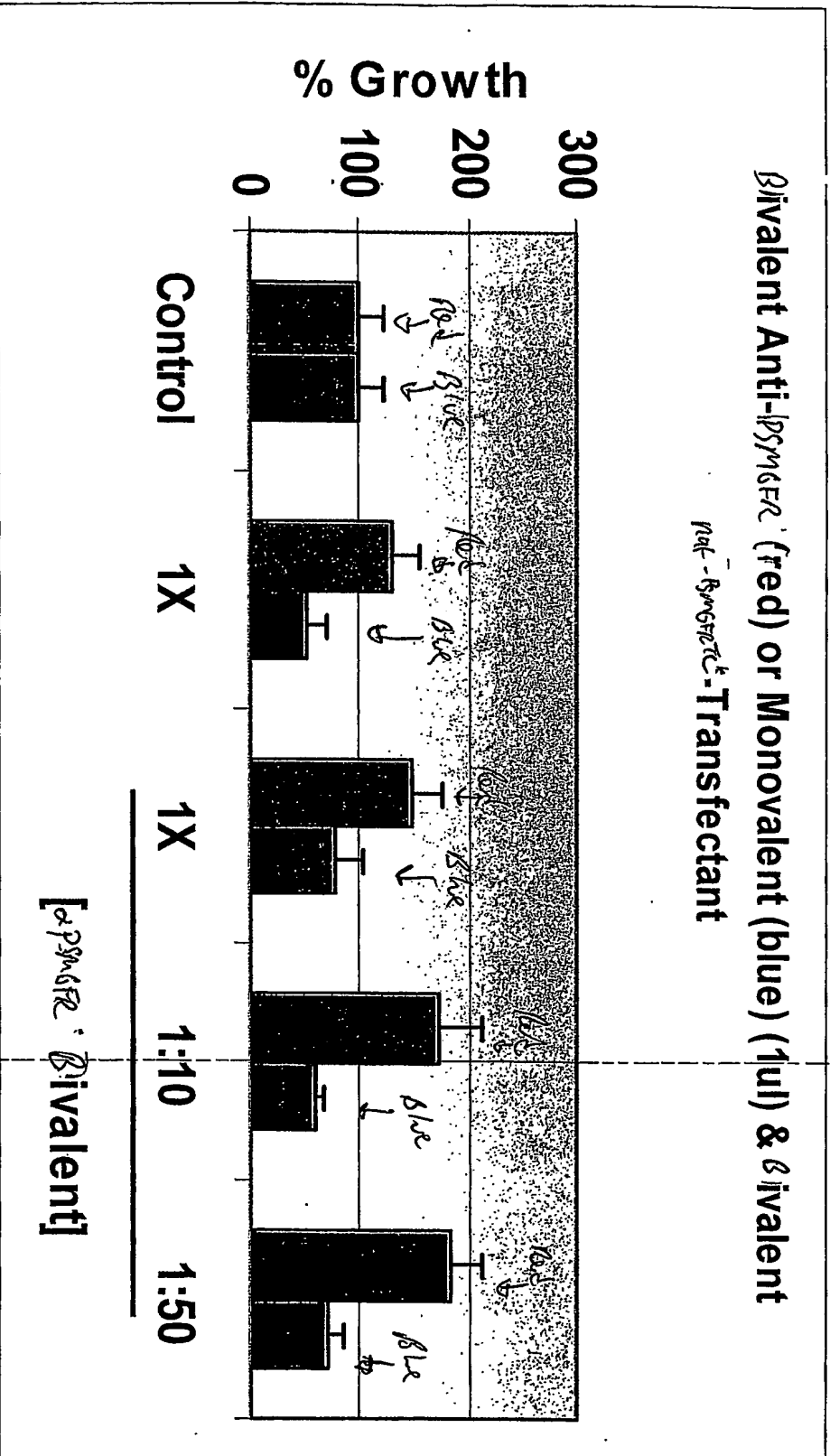


Fig. 39

Monovalent Anti- β PSM6FR Inhibits Cell Growth in

α -PSM6FR⁺ Transfectants

Bivalent Anti- β PSM6FR (red) or Monovalent (blue) (1uI) & bivalent α -PSM6FR⁺-Transfectant



Anti-*PSM6F2* (5uI) Antibody Induces ERK2 Phosphorylation in HEK Cells Transfected with

Mad-PSM6F2C

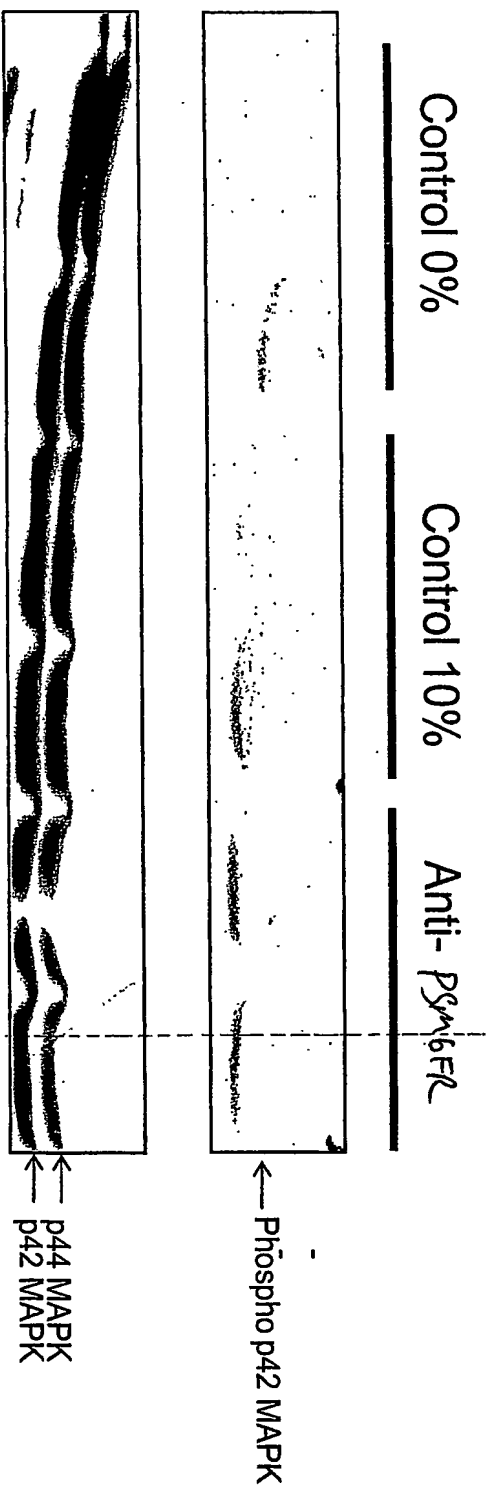


FIG. 41

mat-PP462R Transfectants β ivalent (5ul) Activates ERK2 - Monovalent (10ul) Inhibits

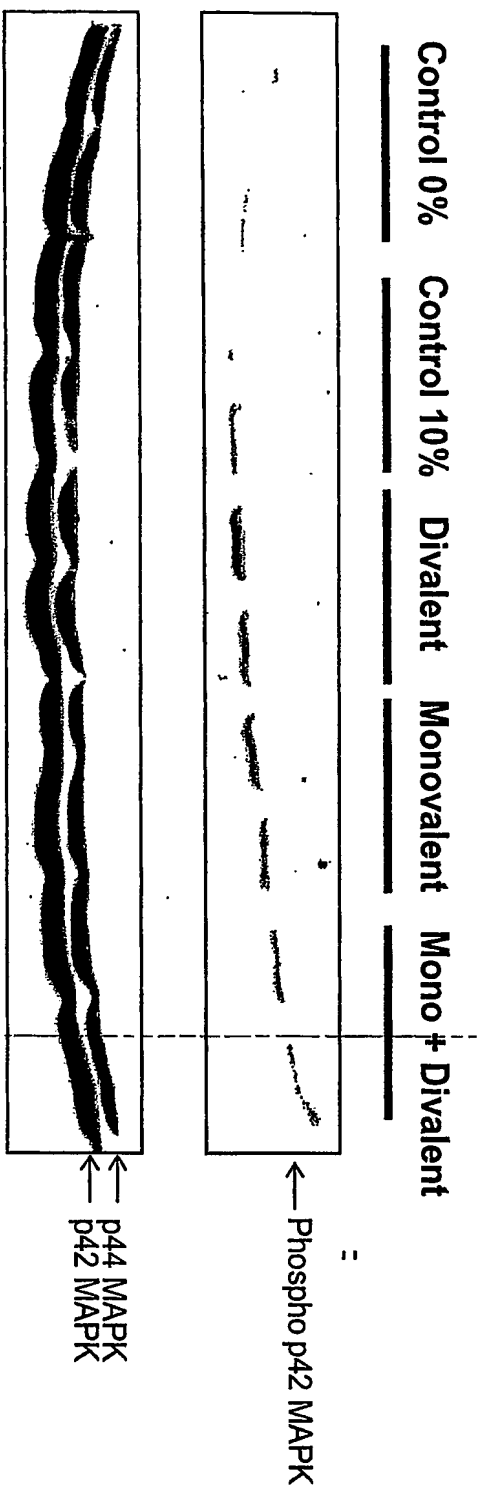


FIG. 42

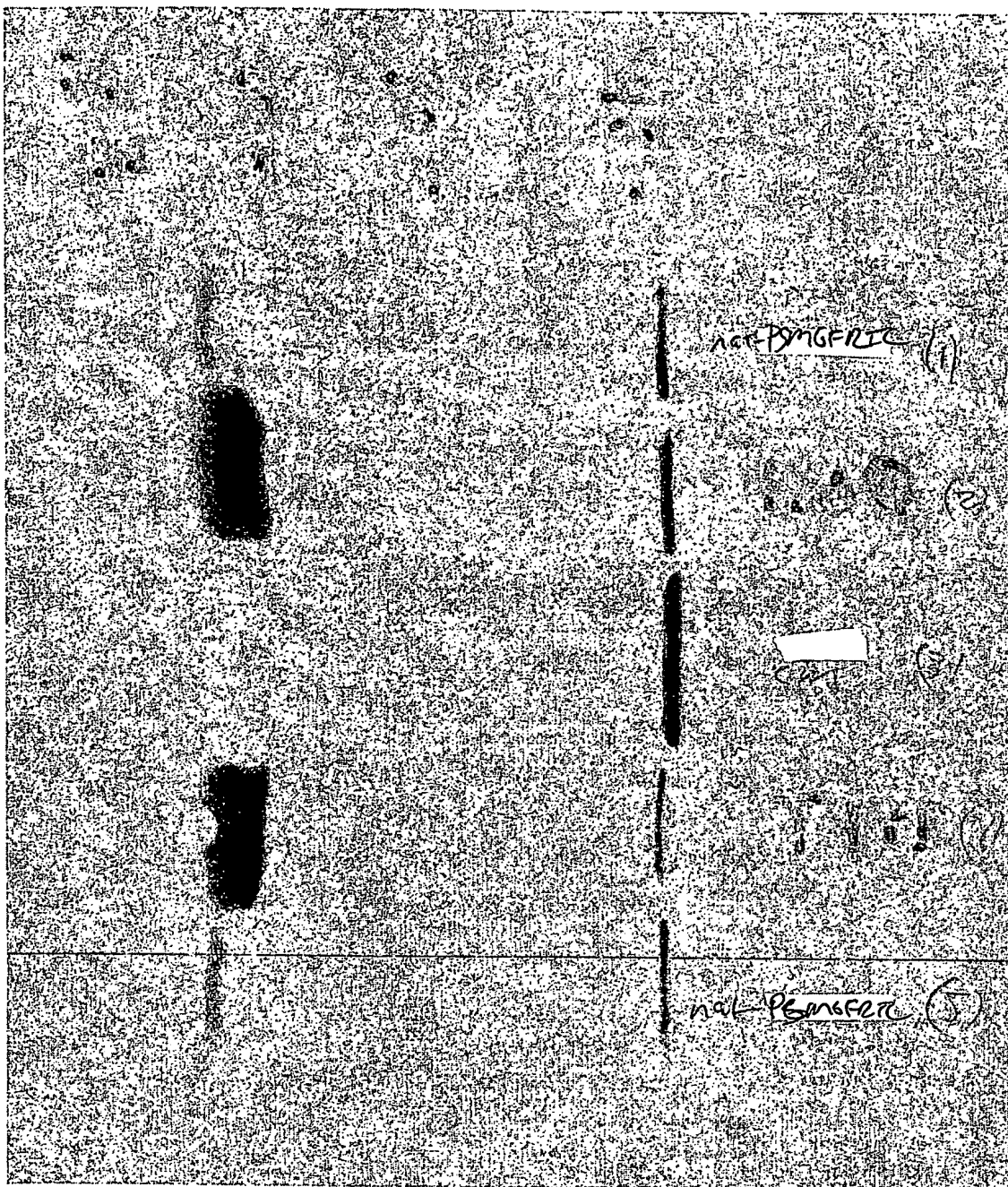


FIG. 13

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Breast Tumor Cells May Produce Two Cleavage Products

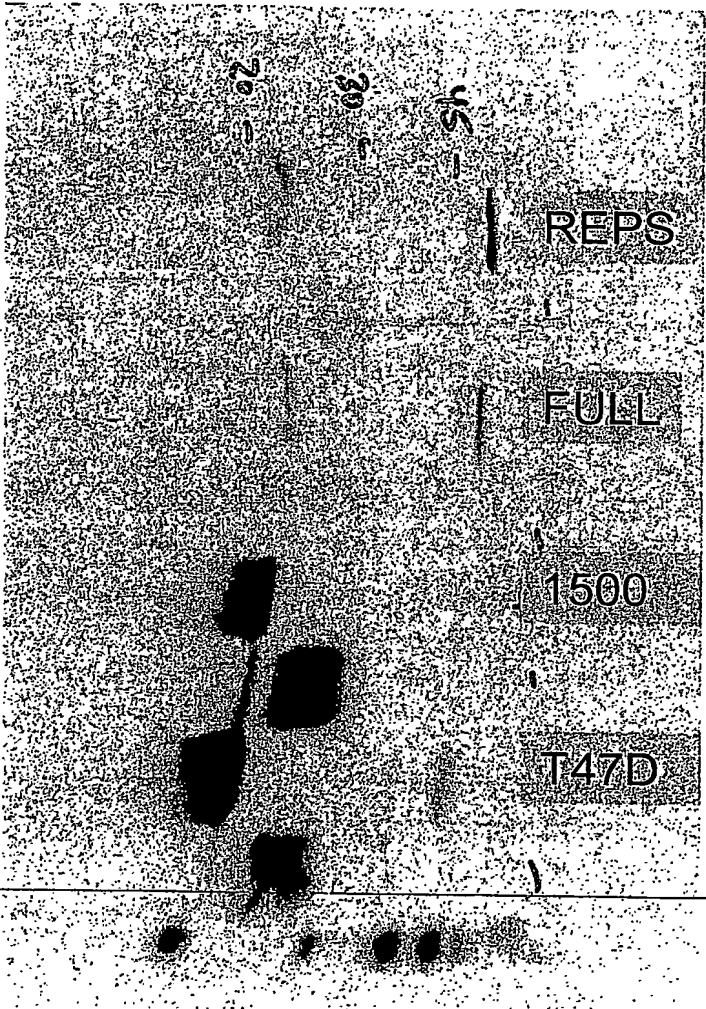


Fig. 44